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THE WORDS TO BE TAUGHT IN SPELLING

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BEFORE one is prepared to enter upon a serious consideration of the problems involved in determining the spelling vocabulary, he should be clear in regard to the major function of spelling in the school program of studies. Spelling is a branch of English instruction. Its central purpose is to contribute to efficiency in written expression. It is a special branch of study in the field of English composition. Its chief objective is therefore to enable children and adults to write words correctly as they employ them in their written discourse.

The work of scholars on the spelling-vocabulary problem has become so extensive and complex that it is hopeless to expect the teachers and supervisors of our schools, without expert assistance or the expenditure of more time than they can devote to the work, to find their way in the present maze of contributions and conflicting theories. To date, between thirty and forty vocabulary studies have appeared, a majority of which should be considered in any adequate attempt to find out what words children should be taught to spell.

An examination of these vocabulary studies shows that the important ones can be classified into three well-defined groups

according to the source of material as follows:

Classification of Studies

1. Word lists derived from the written discourse of adults.
 - a. Correspondence.
 - b. Notes.
 - c. Minutes.
 - d. Reports.
 - e. Books.
 - f. Newspapers.
2. Word lists derived from the written discourse of children.
 - a. Themes.
 - b. Letters.
3. Composite Lists.

Before one is in a position to select the spelling vocabulary, it is evident that the available source material must be collected and carefully analyzed. In preparing spelling lists, much hit-and-miss work has been done. Material of various sorts has frequently been thrown together without careful study of the nature of the sources or the principles involved. As a result, one finds spelling lists in many school systems that will not stand the light of scientific scrutiny.

A brief examination of the above classification will convince one that the sources

mentioned are not of equal validity. As soon as one takes the social point of view and asks, "Which of these sources best represents the writing activity of everyday life?" he will observe that books and newspapers are of questionable utility. They are the product of a small element of the population, of specialists in the writing profession, and therefore cannot be accepted as representative of common needs. Thus we see why the mode of building such a vocabulary as the well-known thousand words of Ayres is not acceptable today. Two of the lists upon which this vocabulary was based consist of material derived from newspapers and books. An examination of source material brings us quickly to the conclusion that the correspondence of adults and the letters and themes of children supply the most satisfactory samples of the writing activity of everyday life.

It is interesting to note that the sources just mentioned are the ones employed in the leading investigations of the spelling vocabulary. In fact, the leading investigations are clearly classifiable into two contrasting groups, one using the written discourse of adults, primarily correspondence, as the source of their words; the other using the written discourse of children, primarily themes, as the source. Andersen's list, which has been much utilized in the manufacture of spelling courses, is a good example of the work of the first group; Jones's list is probably the best-known example of the second. When one considers that the Andersen and Jones lists have each been used also as the exclusive basis for the vocabulary of spelling texts, one senses more fully not only the antagonism of opposing theories, but also the import of the antagonism in the practical work of the schools.

This antagonism is much deeper than the personal rivalry of investigators or the commercial competition of texts. It is no mere accident that certain men have gone consistently to the writings of children for

their spelling words, while others just as consistently have gone to the writings of adults. Nor is the conflict limited to the subject of spelling. It is a conflict that bobs up everywhere in curriculum construction. Whenever one undertakes to select material for the curriculum, no matter what the subject is, he soon confronts this problem. This is why curriculum makers may be classified into two fairly distinct schools—the sociological and the psychological.

When the first great wave of interest in curriculum construction spread over the country, and for some time thereafter, the social point of view was dinned into our ears so insistently that we almost lost our educational balance and perspective. The old notion of education as preparation for life was exhumed, dusted off, and advertised with so much vigor and vehemence that it became evident, unless something happened to change the situation, that the school of Rousseau, Dewey, Hall et alera would soon be expected to apologize for its existence. Analysis of adult activity, which in spelling means analysis of the writing of adults, was to become the sole source of material for the curriculum. The "whims" and "whimsies" of children (including all things and activities in which they are exclusively interested) were to cut no figure in the construction of the course of study of the modern school. Education is for adult life, not for child life, we were definitely and authoritatively told. But thanks to that sanity born of a more mature reflection and a closer study of the facts, childhood is coming into its own again. Only a few irreconcilables of the extreme sociological type hold their ground in feeble challenge to a tidal wave that threatens to engulf them.

In defense of this extreme social viewpoint, this exclusive emphasis on the activity of adults, it has been contended (1) that there is no difference between the word usage of children and that of adults and (2) that if there is a difference, it

should not be recognized in word selection. Neither one of these contentions is defensible. To throw some factual light on the first contention, the writer made a careful comparison of two composite vocabularies, one containing all the words found in eleven investigations of adult correspondence and the other containing all the words found in five investigations of children's themes. In the first there were 9,057 words; in the second, 7,035. The comparison showed that 4,598 words were common; that is, only half of the words in the adult correspondence list appeared in the children's theme list. When the larger of the two lists was reduced to the same size as the smaller by the elimination of words of lowest frequency, the disparity between the two lists was found to be 40.3 per cent.

Confronted with a percentage of disparity as large as this, one suspects that the difference is attributable to something more than faulty methods of investigation. More careful study of the facts supports this conclusion. Detailed analysis of the 2,437 words used only by children showed that they could be classified as in Table I.

TABLE I—ANALYSIS OF THE WORDS USED BY CHILDREN ONLY

Category	Number of Different Words
School.....	576
Stories and adventure.....	465
Home.....	358
Conduct.....	229
Animals.....	188
Play.....	134
Food.....	106
Farm.....	70
Plants.....	68
Health.....	54
Clothing.....	44
Miscellaneous.....	145
Total.....	2,437

Incidentally, this list is offered to teachers of English composition for its

suggestive value in the selection of topics. There are indicated here the things and activities of distinctive interest to children.

Following this analysis of the words used by children only, a similar analysis was made of the 4,459 words used by adults only. Note the categories into which the latter fall, and compare with the classification of children's words.

TABLE II—ANALYSIS OF THE WORDS USED BY ADULTS ONLY

Category	Number	Percentage
Derivatives of common words.....	1,791	40.2
Words of general application:		
Abstract nouns.....	310	7.0
Qualifying words.....	492	11.0
Words denoting activities.....	374	8.4
Words of special application:		
Business and professional.....	710	15.9
Social and political.....	329	7.4
Domestic and recreational.....	321	7.2
Religious.....	41	.9
Miscellaneous words.....	91	2.0
Total.....	4,459	100.0

It is observed that the words used only by children refer to school and home, stories and adventure, plants and animals, conduct and health, food, play, clothing and the farm, while the words used only by adults require a very different, almost completely different, set of categories. In the first place, this list of words used only by adults contains a large number of general or abstract terms, evidently the distinctive verbal equipment of a level of mental maturity beyond that of the child. In the second place, the adult-only list is characterized by the inclusion of words of the following kinds: Business and professional, social and political, domestic, recreational and religious. It is seen, therefore, that the adult-correspondence vocabulary and the childhood-theme vocabulary differ not only to the extent of 40 per cent, but also differ almost totally in the kinds of words contained in their

diverging sections. The conclusion seems certain that the word usage of children differs considerably from that of adults. Moreover, this conclusion is thoroughly compatible with common sense. When we become old we put away childish things and the words by which they are symbolized. On the other hand, psychological maturity brings with it new interests and conceptions, and the words by which they are expressed. In a word, the difference between the writing vocabulary of children and that of adults depends primarily and fundamentally on a difference in psychological maturity.

Inasmuch as the reader may be interested in the type of words used only by children, I present below the best examples obtained. The sixteen words which follow were found

writing are too unreliable for use in curriculum making. Elsewhere we have shown that these investigations are just as reliable as the investigations of adult writing. We may, however, stop long enough to submit data throwing light on the relative reliability of the five childhood vocabularies used in our comparisons. This seems important in view of the destructive criticism that has been directed at one of these lists.

In Table III is shown an analysis of the contribution made by each of these vocabularies to the list of words used by children only. The table shows the distribution of these 2,437 words according to the vocabularies and according to the number of vocabularies in which they appeared. The largest vocabulary of the

TABLE III—COMPARATIVE CONTRIBUTIONS OF DIFFERENT LISTS TO THE CHILDHOOD-ONLY GROUP OF WORDS

	NUMBER OF WORDS						Number of Different Words
	Bauer	Jones	Smith	Studley	Tidyman	Total	
Number of Vocabularies	1	2	3	4	5		
	363	786	156	373	125	1,803	1,803
	115	310	83	195	143	846	423
	63	124	51	99	104	441	147
	40	44	26	39	43	192	48
	16	16	16	16	16	80	16
Total.....	597	1,280	332	722	431	3,362	2,437
Percentage of Childhood-only Group in One Vocabulary Only.....	15	32	6	15	5	73	
Size of Vocabulary ¹	2,873	4,499	2,047	3,451	2,995	15,865	
Percentage of Total Vocabulary in One Vocabulary Only.....	13	18	8	11	4	54	

in each of the five childhood lists studied and in none of the eleven adult lists:

bonfire, cannon, cart, curl, dive, elephant, giant, Indian, insect, kite, noble, onion, sled, squirrel, tiger, violet.

These words tell their own story.

We shall not take time to consider the view that the investigations of children's

five, namely Jones's, made the largest contribution of words found in no other vocabulary—786. This contribution is not only absolutely larger than that of the others, but it is also somewhat larger relatively. The percentages in the last row of the table confirm the truth of this

¹ Repeated words omitted.

statement. It should be noted, however, that the Jones list also contributed more words found in 2, 3, and 4 vocabularies than any other, which is in its favor. The vocabulary making the best showing in the list is Tidyman's. The data show that this vocabulary, average in size, furnished the smallest number of words found in no other vocabulary, and a relatively large number of words found in two or more vocabularies.

What shall now be said regarding the view that even if there is a difference between the vocabulary of children and that of adults, this difference should not be recognized in compiling the spelling vocabulary? One of the best indications of the present trend, so far as this problem is concerned, is found in the composite statement prepared by the Committee on Curriculum-Making of the National Society for the Study of Education (1926). In numerous passages, but especially in the one following, the view of the committee is made clear on this point:

"We would stress the principle that in the selection and validation of curriculum-materials expert analysis must be made both of the activities of adults and of the activities and interests of children. The data from adult life go far to determine what is of permanent value; the data from child life go far to determine what is appropriate for education in each stage of the child's development."

Just as children in reading will continue to use nursery rhyme and fairy tale, stories of adventure and animal life—all in a vocabulary that differs materially from that of the news reports on the front page of the daily paper; so in spelling will they be taught the words that enable them to write about the things and the activities that touch their deepest interests. Nor will the curriculum be crowded with words belonging exclusively

to the adult level of abstraction and professional interest. We shall not withhold the words demanded at the earlier levels of mental maturity and offer as a sorry substitute the verbal pabulum of the adult level.

In the construction of a spelling vocabulary for public-school use, the writer has proceeded on the following assumptions: (1) that the most important constituent of the minimal spelling vocabulary is a list of words with relatively high frequency in the written discourse of *both* children and adults; (2) that words of especially high frequency in the usage of children should be included in the minimal list, regardless of adult usage; (3) that words of especially high frequency in the usage of adults should be included in the minimal list, regardless of the usage of children, but care should be taken to allocate these words to the seventh and eighth grades.

We shall not take time to defend this technique in detail. It may be remarked, however, that the common element constitutes by far the largest portion of the vocabulary, totaling 3,031 words, or about 85 per cent of the whole. The number of words chosen outside the common list is determined primarily by the total number of words desired in the minimal list. From the data available at the present time, one does not seem justified in making this total more than 3,500 to 4,000.

The method of word selection herein described is not proposed as the last word in vocabulary construction in the subject of spelling. It is proposed merely as a method to be pursued under the limitations of our present knowledge. When investigations now under way shall have been completed, it will be possible to make further improvements in the selection and gradation of words for spelling purposes.

THE COURSE OF STUDY IN SPELLING

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WHENEVER one talks or writes about the course of study in any subject, he almost of necessity exposes to some extent his philosophy of education. If, according to one philosophy, the school room is a place for each child to develop according to his interests day by day, learning only those things which the immediate present demands in order to solve a problem or perform an act which he wishes now to do, then no organized course of study is needed. In fact, no organized course of study is possible because no one can foresee what will be needed in any subject for any particular day, week, semester, or year. If, according to another philosophy, the school's only real function is to train the child to think, to meet each situation in a rational manner, then a well organized course of study may not be necessary since it has not been shown that this thinking, rationalizing, may not be as well accomplished by means of one group of subject matter as by another. If, however, one's philosophy assumes that the school is that institution created by society whose function it is to guarantee that the heritage of the past shall be passed on to the children of today in such a manner that these children may carry on most effectively as the adults of the next generation, then an organized course of study is a necessity.

Not only is the course of study a necessity, but its materials are largely determined by that philosophy. One cannot follow that philosophy and select the materials of instruction in a haphazard manner, neither can he leave their selection

to chance interest, to personal bias or to tradition. If there is a well defined goal set by your philosophy, then the materials by which you endeavor to reach that goal must be selected because of their appropriateness as a means of attaining that goal.

What has been said applies equally well to every field of instruction in our schools. The course of study as conceived today consists of at least the following parts: (1) a goal or objective which justifies the inclusion of this subject among the many things to be taught; (2) the materials of instruction which form the means by which this goal is to be reached; (3) a method of instruction for the use of these materials in the attainment of the goal; (4) a scheme of testing the results of instruction so that both teacher and pupil may know the success of the method with the materials or the progress achieved toward the goal. I shall treat each of these briefly with respect to spelling.

If one espouses the philosophy which holds the schools responsible for beginning where we are and making progress in the future through the effective transmission of that part of our heritage which has proved of value, the goal of spelling instruction is fairly easy to discover. We want each child during his school life to learn to spell with automatic accuracy as many as is feasible of those words which will most assist him in carrying forward his share of the world's progress. Thus the goal of spelling is frankly put upon a utilitarian basis. Mental discipline, ethics, aesthetics, etc., must be achieved, if

at all, so far as the spelling goal is concerned, by the material which justifies itself from the standpoint of spelling utility.

The goal or objective is thus expressed in general terms but the materials that are to be used in the attainment of this goal must be specific. We arrive at what these materials are by means of a logical deduction from the goal which we have set. The method is as follows: When do we need to know how to spell a word? The answer is easy,—when we wish to write it. We can speak, we can hear, we can read words without knowing how to spell them but we cannot write correctly without this knowledge. Consequently, the words to be included in our spelling course of study must be found in the writings of people. But all words have been written, have had to be written before they appeared in print. However, we must remember that this course of study is to be required of all children and it is manifestly unfair as well as impossible to require all children to learn to spell all words, for only a very few will ever need even a tenth of them in their writing. What writing then should be considered as the source of this vocabulary which is to be required of all? The logical answer is,—that form of writing which is used by the largest proportion of people, not simply during school life but throughout all the years thereafter. The only form which satisfies this requirement is the letter. Also, since the purpose is to equip the child for adult life where the penalties are much more severe than in school, the letters to be examined for this basic vocabulary which is to be required of all children should be letters of adults rather than those of children.¹

This is the sociological point of view and is opposed by some who say that in this manner children are deprived of words which are of great value to them and compelled to learn others which are beyond their psychological level. The first state-

ment is not true and the second not so bad as it sounds. No child is deprived of the opportunity to learn the spelling of any word which he needs and wants. Much spelling learning is done outside of the spelling period and when a child realizes he needs to know how to spell a certain word, the best possible learning condition exists. But the spelling period is safeguarded for the learning of those words which have permanent value. As to the psychological level, that is a matter of gradation rather than word selection. Moreover, few if any of the words occurring in the first five thousand in the correspondence vocabulary of adults are beyond the understanding of seventh and eighth grade children. They may not yet be using some of these words in their spontaneous writing, but with the penalties exacted by society so heavy for misspelling them, we may not omit them from the course of study.

The course of study in spelling must not only supply a goal and materials but must be a source of information concerning an efficient method of using this material. Most recent courses contain a detailed method of teaching and administering the work. This does not mean that every teacher must use this method alone but it does mean that the teacher who wants help can find it in the course of study. It also means that each teacher is under the obligation of using the method which has been developed experimentally or show superior results by means of her variation. The course of study should carefully avoid giving methods and devices which have not proved their worth under the most carefully controlled experimental conditions. The best that was known up to that time was presented by Dr. Horn in the yearbook.²

Finally, the course of study should contain definite provision for the testing of the learning process. Testing before and

¹ See Horn, Ernest, 4th Yearbook, Department of Superintendence. Pp. 145-69.

² XVIII Yearbook, Part II, National Society for the Study of Education, 1919. Public School Publishing Company, Bloomington, Illinois.

after study gives a measure of immediate learning. A re-test after a period of a week or a month provides a measure of delayed recall. Letters containing the words taught, if dictated rather rapidly, gives some measure of the degree to which the spelling of these words has become automatic.

If the child hesitates to think how to spell a word in such dictation he gets badly behind, resulting in his omitting part of a sentence. The child himself will recognize what words are causing the trouble. Such dictation exercises, not for study but for testing, should be provided either by the text or the course of study. Here again, however, special care should be taken to avoid the inclusion of material, devices, and forms which detract from instead of directing the attention of the child and the teacher toward the main issue, namely, the testing of the efficiency with which this socially important material has been learned.

In Summary.

The course of study reveals the philosophy of education of those who made it.

It should set forth clearly the goal or objective to be attained.

If this goal be efficient written communication throughout life, then the words should be those used most frequently by adults in their correspondence, due care being taken to give proper weight to the vocabularies of the most skilled letter writers of our language.

Materials chosen on basis of social value, should be largely graded on the psychological basis.

An efficient method which has been developed experimentally should be given as a help to the teacher who is not succeeding or is inexperienced in handling this material.

A scheme of testing the success of the instruction should be included. This should place emphasis upon automatic correct spelling which is the only kind that functions satisfactorily in life situations.

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THE SHORTEST WAY TO THE MASTERY OF WORDS

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IT IS SAID that the great Napoleon, in planning his future, would first let his imagination form its dreams unhampered, and then, being possessed of his ideal, would consider what practical means he must adopt in order to achieve it. Such, with your permission, shall be our method in working out the shortest way to the mastery of words.

Our ideal, compactly put, would be this: (1) to have but one form for each word and each letter; (2) to build this form into the mind of the child by the use of every means, sensory and motor, employing the various means in carefully graded order.

As we cast about for practical ways to achieve this ideal, one of the most helpful observations is that of the *unity* of the language problem, a unity which enables us to concentrate our efforts rather than dissipate them in scattered duplication. We shall save ourselves much worry if we can cut off the head of the hydra by one master slash low down in its single neck. There is a story of a high school girl who never realized until after graduation that the Caesar of her Latin class, her literature class and her history class, instead of being a trinity, as she had supposed, were all one Roman. If child and teacher realize that the word they deal with in oral language work is the same that comes up in reading, in spelling, in penmanship and in written language, they certainly do not always center their fire as if they realized it. By dividing our elementary English work into branches, we have so uncorrelated and dismembered it that we must

contrive its correlation and unity. The *word* is the chief unit of difficulty, or at least one of the chief units, in all these branches. We can bring about the desired correlation by a large measure of concentration on the word as the unit of difficulty, by adopting one form only for each word, and by having the word appear first in oral language, then in reading, next in spelling and in penmanship, and finally in written composition.

Our first aim, then, is to prevent our villainous words from making rapid personality shifts and so, in various disguises, escaping the detective, the pursuing child. A word, in the mind of a child, appears to be a kind of action pattern. The statement will not be so materialistic as to be untrue if we say that a word is a sort of mental mold. Children at first recognize a printed word much as they do a toy or any other familiar object. It is about so long and so high, with a few outstanding points or peculiarities, and is recognized, as a teddy bear would be, even if upside down. In time, the discovery is made that this form is filled with individual letters,—and these also make mental molds or forms for themselves. When a word is misspelled, it usually contains about the right number of letters,—the brain mold has been filled, but filled in part with wrong material, a false letter or two, and especially a wrong silent letter or a wrong vowel. Further, this mental mold is in most cases a visual one. So strong is the tendency to use the imagery of the eye that even when letters (or sounds) are heard, they are commonly

converted into visual forms, and when remembered are recalled as such. Experiment has shown that the simplest forms of letters are easiest to recognize, and it is very likely that they also cost less effort in recall. Probably the hardest form in which most people can attempt to visualize a word is in script capitals. (Try to visualize your own name in upper case script.) It would seem to be little short of a godsend if we could standardize our words in simple form, the same for both printing and writing.

Fortunately, the solution of this part of our problem appears to be at hand in the form of manuscript writing. Its use reduces the labor of learning; for instead of forming two mental molds for each word, one for print and one for script, a single pattern only is needed. Some adult spellers report that when visualizing the spelling of a word they see it in their own handwriting. Very likely many children do the same. It is quite according to expectations, then, to hear, from teachers who have had experience with manuscript writing, that its use improves spelling. We should require from our publishers that they furnish us primary books, both readers and spellers, printed in manuscript writing. Perhaps it is not too wild a suggestion to ask whether our pen manufacturers can not furnish us a fountain pen whose design will make the new writing still easier of achievement and whose cost will not be prohibitive. The writing of young children tends to take the form of separate and distinct strokes. By adapting our style of penmanship to this tendency and by securing a single form for each word, it would seem that we should enable children to begin practical writing sooner, master words more readily, take dictation earlier, and so ease up our language difficulty all around.

Secondly, our ideal dictates that we form our single word mold in the juvenile mind by psychological methods; that is, by using every effectual sensory and motor

path, and in the order of ease, introducing but one difficulty at a time. To introduce but one difficulty at a time means to splice our teaching very neatly onto the learner's previous experience. The animal trainer does this when, hearing his lion purr, he himself begins purring, thus setting up a community of experience between him and his pupil. To this extent, baby talk at home is not foolish, but the height of wisdom. One reason why the old alphabetic method of teaching reading passed away was because it broke with the child's previous experience, forcing on him strange-looking letters through the eye instead of permitting him the old privilege of familiar words through the ear.

The easiest way for a young child to approach a word seems to be to have vitally present the object, act, quality or relation for which the word stands and then, isolating it somewhat as an object of attention, to listen to and speak it repeatedly. This is the method of what we may call realistic oral language. The hardest task we can give our little learner, especially before writing has become automatic, would appear to be that of combining the new word with other words in written composition. Between these two extremes should come the reading and the spelling of the word, and practice in writing it. If, then, we could have an ideally graded course of presentation for each word, we would present it—with its thought of course—first in the oral language lesson, using on it ear and voice with vision incidental; then in reading, where eye and voice would cooperate; thirdly in spelling, using eye, voice and hand; next in writing, where coordination of inner speech and hand movement would be practiced; and finally in written composition. It would of course be unwise and unnecessary for teachers to worry their souls in an effort actually to introduce every word by this series of steps. But perhaps some of the most troublesome can be handled in this way. Perhaps, too, the time will come

when some daring publisher will put out a series of language books, of reading books, of spelling books, and of writing books, all concentrated on the one best juvenile vocabulary so far as it can be discovered, and so coordinated as to introduce each major word according to the graded steps of mastery as described.

Spelling, then, should with one hand receive the word from *reading*, and with the other pass it on to *writing*. In reading, the visual word form is mastered as a whole, and the auditory form is analyzed, perhaps, into its component sounds. In spelling, the dominant problem, as various studies seem to indicate, is the discriminating of the sounds of the auditory word form and the permanent associating of these sounds with the necessary visual and manual elements—in other words, hitching the sounds of the word fast to its letters. In the writing class, attention will of course be concentrated chiefly on writing; but now that the word is familiar both as a whole and as to its elements, it can be placed in an easy setting with other words and practiced as so much preparation for the more difficult task of written composition.

Every teacher has reflected, of course, that if our language were perfect from a phonetic standpoint, the central problem of spelling, that of "hitching the sounds of the word fast to its letters," would vanish. "Knowing your letters" would be the same as knowing your sounds; and to know the sounds of a word as one must in order to pronounce it accurately would mean to know its letters and hence its spelling. We, like the Spanish and the Italians, should have no spelling classes. But until that time comes, it would seem wise for the teacher of spelling to lay heavy stress on the visual appearance and tactual-motor execution of a word, especially a non-phonetic word, and to teach its form somewhat as she would that of an object which has no sounds corresponding to its parts, such as a chair. In other words, a problem

in non-phonetic spelling is a problem in drawing, and requires the same careful observation and retention of visual and tactual-motor details, to be recorded later on paper. If this is correct, then exercises designed to stamp in the standardized print-script form of each letter, and especially the *connections between letters*, ought to be valuable. For instance, children might cut out large-size letters (not capitals) from patterns, and later, each child wearing a letter, skip to the front of the room and dramatize the spellings of the words that give difficulty. Common report, which should be checked up by experiment, indicates that the typewriter is a valuable aid.

Shall we ever be able to make the English language phonetic, and so have, as one might say, but one form of a word for both eye and ear? I think so. And a little child—and his teacher, shall lead us. The proposal has been made that we prepare a simplified, phonetic form of English for use among foreign peoples. Why not give little children the benefit of this easy form? For they, too, are "foreigners" to English in the beginning. Here, again, the simplification that results from the adoption of manuscript writing should help remarkably. One of the chief difficulties, if not the foremost trouble, with phonetic alphabets, has been their arbitrariness and consequent peculiar appearance. In our language, we have about forty sounds and only twenty-six letters. We need, then, some fourteen extra symbols. By standardizing a single print-script form for each letter, we can release a number of alternative but familiar and rational-looking forms to be used in filling up the quota of fourteen. For instance, the letter *a*, as printed and written, presents at least three very usable forms. Why not standardize each of these for a single sound?

It is quite possible that the time is ripe for some such movement as this, and that the teachers of the land should start it.

A SUGGESTION FOR SCIENTIFIC EXPERIMENTATION IN A METHOD OF TEACHING SPELLING

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Introduction

A NUMBER of years ago, under the leadership of Joseph S. Gaylord, now of Chicago, the Winona faculty gave much study to the problem of "methods." The "Thought" method (since then called by other names and included in other suggestions of procedure by various educators) was advocated and discussed. One member of the faculty conceded its value for certain types of subject matter but challenged the supporters of the "Thought" method to make it work in a purely formal subject, spelling being named as an example of such a subject.

The challenge was accepted and Mr. Gaylord worked out a plan, with the writer of this article as the "teacher" (T) in the reports which follow.

In 1923 a school fire destroyed all the original stenographic reports and the teacher's record of details, hence only a general discussion is today available. The writer would like to see a number of teachers try the plan, under more scientific conditions, with larger numbers of pupils, and in varying situations.

The writer has, in recent years, at repeated intervals, made additional demonstrations, tests, and variations in the study in grades four, five, and six, as well as in grade three where the original experiment was performed. The generalizations found at the end of the article are, consequently, based on a wider range of work than might appear to the casual reader of the few samples of work here given.

Although the bulk of the material was

burned, the author has much more than appears in this article and will gladly correspond with any one desiring more knowledge of the experiment.

Original Plan of Procedure.

This had for its object the comparison of results obtained through teaching spelling in two ways, one denominated the "Thought" method and the other, for want of a better name, the "Formal" method.

1. A third grade class of about twenty-five pupils was given four tests:

a. A list of fifty familiar words to spell, dictated one at a time.

b. A short fable, first read aloud and then dictated by sentences and phrases.

c. An anecdote or fable read to the class, discussed, and then written from memory by each child in his own way.

d. A story, short composition, or letter, composed and written by each child without help or suggestion from the teacher.

2. Each set of papers was carefully graded and the pupils ranked in order of excellence.

3. A committee then divided the class into two sections of as nearly equal ability as was possible. That is, in section A there was a strong pupil, an average pupil, and a weak pupil for each corresponding one in section B. (During the progress of the experiment, absence and other causes reduced the number of pupils finally matched against one another to less than ten in each section.)

4. The same teacher was to teach both sections, and for the same length of time daily, and on the same subject matter.

(One section studied in another room while the other section worked on this problem.)

5. The time and place were set to permit all members of the faculty who cared to do so to come on any day.

6. Students from the psychology classes were appointed to observe and to take down every word exactly as written by each pupil as well as by the teacher. Comparison and correction of these notes gave a practically perfect report of the experiment, and from these notes different students made tabulated reports along the following lines:

a. For each child: *date*, *incorrect* form used, *correct* form intended, *times* child used incorrect form, *times* teacher presented the correct form after child had erred, *times* child wrote correct form later. See sample of Table 1, below.

b. Comparisons of gain made by individuals and sections in kinds of errors, in fluency, in volume, in persistency of error; and so on, for many things that arose during the progress of the lessons. See samples of Tables 2 and 3, below.

c. Checking of papers from pupils when both sections were tested on the same four sorts of effort as were first used in separating the sections.

7. For six weeks, Section A was taught by the "Thought" method, while Section B was taught by the usual more or less formal method. After a test and comparison of the results, Section B was taught by the "Thought" method and Section A by the ordinary method for six weeks, at the end of which time a second test and comparison were made.

Since all are fairly familiar with formal methods of teaching spelling, only the plan used in the "Thought" method section will be explained.

The following points were kept in mind by the teacher:

1. Select a worth-while story or a coveted bit of information (such as an excursion to be taken, for example) to

relate to the pupils. (Experience proved that it was better to select a comparatively short unit to tell. Fables, anecdotes, parts only of long stories, proved good. Made-up material was tried, but it never seemed so satisfactory as was something with a literary flavor.)

2. Tell it by writing it on the blackboard, with free, easy movement, and good letter forms. Spell all words correctly.

3. Ask interesting questions about the story (or information), *in writing only*.

4. Expect pupils to reply *in writing*, hence have about ten pupils at a time play the game. Clear as large a blackboard space as possible, have the tray full of crayon and erasers to facilitate freedom in writing, and have no tables or chairs to interfere with quick stepping to the blackboard.

5. Watch errors, and, while making the story move, use the correct forms of most misspelled words in emphatic places in succeeding questions. Keep the conversation going, whether all errors are corrected or not, just as in an oral recitation the work must move and not too much time must be given to work with one child over some detail.

6. Whenever a child hesitates because he can't spell a word, the teacher should write it for him, exactly as she would supply a word orally if he needed it.

Samples of Conversations Had by the Teacher and "Section A" Pupils

Concerning the story of "Jack and the Beanstalk," not originally presented in writing, because already quite familiar to the children.

(T—the Teacher each time.)

T. What was Jack to sell? (Time given for all to think each time before any one child was designated.) Vera.

V. The cow.

T. What did his mother tell him to get for the cow? Kroeger.

K. His mother told him to get all he could.

T. What did he get? Frances.

F. He got some bans.

T. The beans were what color? Frances.

F. The beans were red and blow.

T. Which do you like better, red or blue? Frances.

F. I like blow better than red.

T. Why do you like blue the better?

F. Blow is my collur, mother siad.

T. All may help erase the board. (All did.)

T. (begins again as though the erasing demanded some repeating). I think blue is your color because your eyes are blue. Tell me again why you like blue. Frances.

F. Because blue is my color, mother siad.

T. Take your place.

Others called on and story was continued.

(Note. This shows the general plan of questions and answers. It will be noted that the minute an error was made the teacher used the correct form in an emphatic part of another sentence. Frances had the wrong habit of spelling "blue" so fixed as to need five correct presentations before she corrected the word, whereas "beans" and "color" were corrected after one presentation each. "Said" was not presented at all, so was still incorrect at the end of the recitation. Frances had had more than her share of time, but since she never again misspelled "blue" the effort was worth while. Note that absolutely no attention was called to the misspelled word.)

Two days later, near end of the lesson:

T. What did Jack do when he did wake up? George.

G. He elinb the bean sta—(T. wrote stalk for George.)

T. Did he climb far? George.

G. He climb ta the top.

T. When he climbed to the top, who met him? George.

G. A fairy. (T. hoped that George would write "When he climbed to the top, he met a fairy," but he didn't; so she continued):

T. When did the fairy meet Jack? All. (Each number refers to one child.)

1. At the top of the beanstak.

2. When he climbed to the top of the beanstalk.

3. When he cimb to the top.

4. When he had ("gone" was meant, but was omitted) a little way on the road leading from the beanstalk.

5. At the top of the bean stalk. When he reached the top at another land.

(These are typical replies, so others are not given)

(Note: This sample shows how the teacher may often call on all or several, and shows that already pupils have conquered some of their earlier stiffness and brevity.)

One day later:

T. What did the fairy advise Jack to do? James.

J. She told him to go to a casel.

T. Who lived in the castle? James.

J. A kiing lived in the castle.

T. All who think a king lived in the castle may hold up hands. (No hands were held up.)

T. Then who did live in the castle? Vera.

V. A jiant did.

T. Is Vera right? Did a giant live in the castle? Frances.

F. Yes.

T. What is a giant, Vera?

V. A big man.

T. Tell me a longer story, Vera.

V. (Added to "A big man") is a giant.

T. Do you like this giant? Chester.

C. No.

T. Why not? All who know may answer.

(1) He will eat you up and he stold.

(2) The giant killed Jack's farther.

(3) Because he stold his fathers money

(4) Becuse he stold Jack father's mony.

(5) Because he would hurt me.

(6) He stolt.

(7) Because he robbed Jack's father.

(Note: Again several were called on. As this ended the recitation, the teacher noted the individual errors and planned to correct them in the next lesson. Although a teacher can not recall all the errors when all the work is done on the

blackboard, since very often her question is erased to make room for more, she should plan to have this sort of lesson or "game" at the end of the day so that work may be left on the boards and so that she can immediately record the errors made and the point in the story at which the lesson ended.)

Samples of Tabulations Made.

Since, without the full records for consultation, the students' tabulations would be of little value and, probably, of less interest, to most readers of this article, only illustrations of them are appended.

plan of work and the informal conclusions which follow helpfully suggestive.

General Conclusions

Although, as was said before, the conclusions are based on a wider study than here shows, they are nevertheless only tentative and suggestive; not thought for a moment to be scientific nor final.

1. Comparing pupils taught by the "Thought" method with a group of

TABLE I—PERSISTENCY OF ERROR

Frances—March 25	bans for beans—made error once	T. gave right form once
	blow for blue—made error 3 times	T. gave right form 5 times
	collur for color—made error once	T. gave right form once
	siad for said—made error 2 times	T. gave right form no times

TABLE II—FLUENCY TESTED BY VOLUME
(AFTER SIX WEEKS)

Group A		Group B	
Avis	6 pages	Ruth	4½ pages
Kroeger	6 pages	Esther	4 pages
Chester	5 pages	Harold K.	4 pages
Vera	5 pages	Merlin	4 pages
Frances	4 pages	Harold T.	3½ pages
James	4 pages	Earl	3 pages
George	2½ pages	Ethel	0 pages
Total	32½ pages	Total	23 pages

TABLE III—TYPES OF ERRORS IN SPONTANEOUS WORK

Avis. Six pages.	Incorrect grammatical form used		4 cases
	e.g. who for whose		
	say for said 2 times		
	Letters or parts of letters left off		7 cases
	e.g. an for and		
	hin for him		
	roon for room		
	door for doors		
	Letters added		5 cases
	e.g. something		
	growne		
	mornning		
	Pure misspellings		4 cases
	e.g. steel for steal		
	gaint for giant		

Although not all teachers would find value in making such tabulations, it is believed that most intermediate teachers of written language will find the foregoing

pupils simultaneously taught by a "form" method, it appeared:

a. That these pupils did *not* spell *lists* of words any better than did the group which was taught by a "form" method.

b. That those taught by the "Thought" method did do better on *dictation* of sentences, since they could write faster and had control of small words as well as of punctuation.

c. That they did much better in the *reproduction* test, using longer sentences, better vocabulary, better spelling and punctuation.

d. That in *original composition*—a letter telling about some school affair, hence equally familiar to all—the group taught by thought spelling far surpassed the other in every phase of the work: in penmanship, sentence structure including use of capitals

and periods, vocabulary, spelling (all words used counted), speed and vitality.

(Note: This records the conclusions from results at the end of six weeks. At the end of three months, Group B showed no such superiority over Group A, though it showed slight superiority in specific cases, but this fact seemed even stronger proof that the thought method was good, since all power gained by Group A the first six weeks seemed to be a permanent acquisition. The class was fairly even again at the end of the term.)

2. The advantage, then, lies in *written* language, rather than in list-spelling.

3. If a definite list of words (as from a spelling book) must be covered in a brief time, the plan *appears* ineffective, because the particular words desired may not be easily woven into this question-and-answer plan, though the writer did succeed in doing this, as will be seen in some of the variations suggested below.

4. Children love it as a game.

5. It should be used as often as possible, even if not regularly, since it may quiet a school on the inevitably "bad days", and is especially useful when the teacher may have "lost her voice." Of course, to be used then, it must already be a familiar plan to the pupils.

6. Although the success of the plan depends in large measure upon the teacher's readiness to meet unanticipated situations, it is nevertheless possible for the teacher to make fairly definite plans in advance. (Illustrations of such plans could be given if space permitted.)

7. The plan works best in fourth and fifth grades, though forms of the plan may be used in every grade. (See variations.)

Variations to Adapt the Plan to Larger Classes

1. Begin in first grade, writing on the blackboard, "Good morning, children!" expecting only an oral reply until near the end of the year. Vary by writing, "Good morning, John;" "Good morning,

Harold;" "Good morning, all." In second grade and above, write directions on the board for seat-work, such as, "Today you may use the blue boxes." "..... may pass the ruler." "..... may give each a colored pencil." (Supply name at the last moment.)

(Note: The greatest value lies in the children's watching the teacher as she writes, for they get the form slightly through the ear as the crayon scrapes the board; through the eye; and best of all, through the larger muscles. Hence, prepared written directions are not so good, though they do serve as one substitute.)

2. Once when the spelling lesson due included names of parts of the body, the teacher prepared commands containing the words, such as: Close one eye. Hold up one finger. Hold up three fingers. Touch the toe of your shoe. Play I'm the doctor who has just said, "Stick out your tongue." She wrote on the board one command; gave all time to think; wrote the name of one child to do it. Then wrote, What did Charles do? Lulu. Lulu wrote: Charles closed his right eye. Etc.

3. She varied this by writing, "You may give the same command and name some one to do it, James." In this case her own command was erased before James wrote his. Of course if he needed help he received it. As soon as the children knew that they might repeat the command, there was strong motive for careful noting of the first writing.

4. Have all the school watch, while five or six children sit in the front seats ready to answer at the blackboard.

5. Have all work at children's desks done on very large sheets of plain paper, with very soft and large pencils or crayons, so that the effect is similar to working at the blackboard. The teacher quickly walks about, notes some common error, and as quickly steps to the board, to ask a new question demanding a correct use of the misspelled word. Possibly one child is

A STUDY OF ERRORS IN COMMON DIFFICULT WORDS

AN INVESTIGATION TO DETERMINE THE TYPES AND
CAUSES OF SPELLING ERRORS

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FOR some time there has been an acknowledged need of a study which would make clear the types and causes of errors occurring in common difficult words. It has been the practice of many teachers to emphasize hard spots in the teaching of spelling. So far, the efficiency of such a procedure has not been determined. Perhaps the main reason for this is the fact that teachers have not known from objective data which part of the word actually causes the greatest difficulty. From investigating but a few misspellings of the word *separate*, it may be seen that the first *a* is the point of difficulty. For many words, however, the discovery of the hard spot or typical error can be made only by the actual analysis of a large number of misspellings. Many well known authorities in the field of spelling have realized the necessity for an investigation of this nature. Cook and O'Shea,¹ Tidyman,² and Horn³ have mentioned in various publications the need of such an investigation. The research which will determine the efficiency of emphasizing difficult parts of words in teaching cannot be made until the difficult parts of the words to be studied are determined.⁴

There have been some studies made to determine the types and causes of errors but these studies for various reasons have not adequately covered the field. They are valuable, however, in suggesting methods and procedures for such an investigation.

The first problem to be solved in making such a study is to determine which words shall receive consideration. It was felt necessary to have a measure of both frequency of use and difficulty. Throughout this paper, the term "frequency" refers to the frequency as given in Horn's *A Basic Writing Vocabulary*⁵ and the term "accuracy" refers to the accuracy as given by Ashbaugh in *The Iowa Spelling Scales*⁶ and in others of his investigations.

Two main methods were available in selecting words according to the foregoing criteria. The first, which was used by Smith⁷ in determining spelling demons made use of the product obtained by multiplying the frequency by the difficulty, using this product as a measure of importance. This method was considered at some length but was finally discarded for the reasons that a great majority of these words which give the highest products, though occurring frequently, are missed by such a small percentage of the pupils as to

¹ Cook, W. A. and O'Shea, M. V., *The Child and His Spelling*. The Bobbs-Merrill Company, Indianapolis, 1914.

² Tidyman, W. F., *The Teaching of Spelling*. The World Book Company, Yonkers-on-Hudson, 1919.

³ Horn, E., "Principles of Method in Teaching Spelling as Derived from Scientific Investigation." *Eighteenth Yearbook of the National Society for the Study of Edu-*

⁴ An experiment is now being conducted by Tireman at the University of Iowa to determine the efficiency of focusing attention on hard spots.

Words Most Commonly Used in Writing, University of Iowa Monographs in Education, First Series, No. 4, April 1, 1926, College of Education, University of Iowa, Iowa City, Iowa.

⁵ Ashbaugh, Ernest J., *The Iowa Spelling Scales: Their Derivation, Use, and Limitations*, Journal of Educational Research Monograph, No. 3, June, 1922. Public School Publishing Company, Bloomington, Illinois.

⁷ Smith, J. Frank, *A List of 201 Spelling Demons*. Master's thesis, University of Iowa, 1920.

cause no serious trouble and it is also doubtful if such words would show any parts offering particular difficulty, i. e., have any typical errors or hard spots. Examples of words which would be well toward the top of the list compiled on such a basis are: *your, to, too*.

The second method, which was finally adopted, consisted in establishing an arbitrary frequency limit for the words which would be included in this study. Since the first 5,000 words, with their repetitions, make up a very large majority of the total number of written words, the frequency limit was chosen so as to include the first 5,000 words of the Horn list.

A second arbitrary choice became necessary in the use of this method. Even though a word occurs within the first 5,000 of the Horn list, what must be its difficulty in order that it should be considered in need of special attention in regard to the causes of its misspellings? In this case, it was decided that all words within the first 5,000 which were missed by 40 per cent or more of the pupils at the eighth grade level, according to the difficulty given by Ashbaugh, should be included. In case the emphasizing of hard spots or typical errors is found to be advantageous, it would not seem worthwhile to emphasize before the entire class certain difficult parts of a word if 60 per cent or more of the pupils in the eighth grade spell the word correctly. Using the above mentioned criteria, a total of 268 words were secured.

For purposes of administration, these 268 words were divided into five lists, each list having approximately the same range and distribution of difficulty. A very detailed set of directions was made and sent with each list to every teacher who participated in the study. The schools which coöperated are all in the state of Iowa but were selected with a view to sampling adequately the various sized school systems and also to securing a well-balanced geographical distribution. The entire 268 words were spelled by eighth

grade and twelfth grade students in 41 public school systems and by the seniors in eight colleges. From the papers received, two hundred spellings of each word at each of the three levels were selected at random and a tabulation made of the exact misspellings which occurred with their corresponding frequencies.

Table I, page 115, gives, in condensed form, the results of the tabulation of the spellings of four words. The table should be read; "Out of 200 papers of eighth grade pupils who were asked to spell *divine*, 90 spelled it correctly, 97 spelled it *devine*, 12 spelled it in eight other different ways, and one did not attempt it. Out of 200 papers of high school seniors who were asked to spell *divine*, 139 spelled it correctly and 61 spelled it *devine*. All pupils attempted it and no other form of misspelling occurred. Out of 200 papers of college seniors who were asked to spell *divine*, 155 spelled it correctly, 43 spelled it *devine*, two spelled it in two other different ways, and all attempted to spell it.

The figures given in connection with the other words should be interpreted in like manner. The frequencies for any form at any level may be changed to per cent by dividing by two since the figures given are derived from a total of 200 papers.

The abbreviated results of the tabulation of the misspellings of four words, as given in the Table I, show only the two or three most common misspellings with their frequencies at the three grade levels. The detailed results of the tabulation of one word, showing all the misspellings, their frequencies and the grade in which they occurred, are given in Table II. A total of 200 papers were scored at each grade level.

From such material as is contained in the two preceding tables the difficulty of each of the 268 words at each of the three levels can be determined, i. e., how much better do college seniors spell a given word than do high school seniors, or high school seniors than eighth grade pupils.

Also from this tabulation it can easily be determined whether a given word has a particular type of error, a particular point of difficulty, or whether the misspellings are distributed rather equally throughout the entire word. The word *divine* has a typical error in that *e* is substituted for the first *i*. The word *delinquent* has a hard spot in the vowel following the *qu* but it cannot be called a typical error since no one vowel or vowel combination is especially common. If a typical error

or hard spot is discovered in the eighth grade, does this same typical error or hard spot then predominate at the twelfth grade or college senior level?

After discovering the types and the frequencies of errors in this list of common difficult words, an attempt will be made to discover the causes for the occurrence of these errors. It is hoped that from this study some material may result which will aid in the first teaching of these common difficult words.

TABLE I—SHOWING MISSPELLINGS ON FOUR WORDS

I				II				III		
Correct spelling with frequency at each of the three levels.				Most common incorrect forms with their frequencies. Also number unattempted at each level.				Additional number of misspellings not included in Column II, followed in parenthesis by number of different forms making up the frequency as given.		
8th—12th—16th				8th—12th—16th				8th	12th	16th
divine	90	139	155	devine	97	61	43	12(8)	0(0)	2(2)
				unattempted	1	0	0			
delinquent	70	150	185	delinquent	10	16	4	105(71)	25(15)	8(5)
				delinquant	9	6	2			
				delinquent	2	3	1			
				unattempted	4	0	0			
delegates	135	175	185	deligates	34	14	4	15(12)	7(7)	8(4)
				delagates	16	3	2			
				unattempted	0	1	1			
conscientious	16	73	134	conscientous	8	12	20	147(110)	79(60)	25(15)
				concientious	9	16	8			
				consciencious	4	13	12			
				unattempted	16	7	1			

TABLE II—SPELLING RESULTS ON ONE WORD—SHOWING ALL MISSPELLINGS AND THEIR FREQUENCIES BY GRADES

FREQUENCY OF OCCURRENCE AT THE THREE GRADE LEVELS

	8th	12th	16th
Number of Correct Spellings of the Word <i>pneumonia</i>	74	132	164
Number of Different Forms of Misspelling	75	39	21
Total Number of Misspellings	122	65	34
Unattempted	4	3	2

MISSPELLINGS WITH FREQUENCIES

	8th	12th	16th		8th	12th	16th
ammonia	1			phmeuaina	1		
amnonnia	1			phmoinia	1		
amomea	1			phnemona			1
amonia			1	phnemonia	2	2	1
anomina		1		phnemounia	1		
anonianu	1			phnenimonia		1	
anumonian	1			phneomia	1		
demondia	1			phneomina	1		
knemonu	1			phneumonia	9	13	4
memonia	1			phnomeia	1		
munonia	1			phnomia	2		
namoia	1			phnuemonia	4	1	
namouny	1			phnumonia	1		
nemonia	4			Phnumonia		1	
nephenoma	1			phomonia		1	
nephonia			1	phomoniow	1		
neumonia	4	3		Phonia	1		
newmonia	4			phonimonu	1		
newmony	1			phueumonia	3	2	
nomina	1			phumonia	1	1	
nuemonia	1			phunemonia	1		
numoia	1			phunmonia	1		
numonia	8	1	1	pneaumonia			1
numonua	1			pneimonia	1		
peneumia		1		pneumonia	8	3	1
penmonia	1			pneumonina		1	
penominia	1			pnemounia	1	1	
penumonia	1			pnenomia	1		
peunmonia		1		pnenomionia	1		
peunomia		1		pnenonea		1	
phemomina	1			pnenonia	1		
phemonia		1	1	pnenumoia	1		
phemonuaia	1			pneomonia		1	
phemonuime		1		pneumamia		1	
phenemonia	1		1	pneumaine	1		
pheneumonia		1	1	pneumia			1
phenimonia	1			pneumnia			1
phenioma	1			Pneumonia			2
phenomenia			2	pneumphia	1		
phenomia	3	3		pneumunia		1	
phenomna		1		pneunomia			2
phenomonia		1	1	pneunonia		1	
phenomu		1		pneurminu	1		
phenoumia	1			pnmonia	1		
phenoumina		2		pnmonia	2		
phenoumonia	1			pnuemonia	4	2	5
phenumia	1			pnueounia	1		
phenumonia		2	3	pnumeia	1		
pheomena	1			pnumonea		1	
pheumonia	1	3		pnumonenia			1
Pheumonia		1		pnumonia	4	2	
pheumonia	1	1	2	ponuime	1		
pheumonina		1		pounia	1		
pheuphmonia		1		pueumonia	1		
phewmonia	1			remote	1		

PRE-TESTING AND SPELLING ABILITY

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IT IS generally conceded that the test-study method of teaching spelling is superior to the study-test method. A recent report of an investigation of this subject gives as a conclusion the following: "The test-study method was significantly superior to the study-test method for the better spellers, and at least as good for the poorest spellers."¹ However, in the opinion of the authors, whether or not all words shall be pre-tested, and what method of pre-testing is most efficient, are still debatable questions.

The investigation reported here was made in a fifth grade of the Marinette, Wisconsin, city schools during the first semester of the school year 1926-1927. The room had an enrollment of thirty-eight pupils and was taught by a teacher with many years experience. The pupils were divided into two groups of equal ability as determined by a composite rank secured by the giving of the following tests: Haggerty Delta 2 Intelligence Examination; Thorndike-McCall Reading Test, Form 6; Morrison-McCall Spelling Scale, List 6; and Ayres Spelling Scale, List P. Twenty of the odd-numbered words were used from the Ayres Scale. In determining the ranks of the pupils on the Haggerty Examination the intelligence quotients were used because some evidence exists that there is a positive correlation between general ability and spelling ability.²

The Thorndike-McCall Reading Test will indicate the pupil's vocabulary power and for that reason bears a positive relation to the child's spelling ability.

In order to make spelling ability the most important factor in the equating of the two groups, two spelling scales were given and the ranks on each of these were used separately. The composite rank is, therefore, made up of four individual ranks, one each from an intelligence test score, a reading score, and two spelling scores.

Table I shows the ranking of each pupil on each of the four tests, with the method of arriving at the composite ranks.

On the basis of the composite ranks given in Table I the pupils were divided into two groups. Pupil with rank 1 was put into Group I, pupils with ranks 2 and 3 into Group II, pupils with ranks 4 and 5 into Group I, etc. Table II gives the groups as determined by this method. The sum of the ranks for each group is $370\frac{1}{2}$, which gives two groups of as nearly equal abilities as possible.

It should be kept in mind that these two groups were taught by the same teacher. The pre-testing of the two groups was done at one and the same time. Group I was told to attempt the spelling of all words in the pre-test. This is the usual method of pre-testing and the method which the room was accustomed to using. Group II was told to write only those words they were sure they could spell correctly, and to draw a line in their spelling tablet to indi-

¹Kilzer L. R. Test-study method versus the study-test method in teaching spelling. *School Review*, Sept. 1926.

²Hauser, J. D. The relation of spelling ability to general intelligence and to meaning vocabulary. *El. Sch., Jour.*, 16: Dec. 1915.

cate that a word which had been given in the pre-test had not been attempted.

The illustrations given below will make clear the two methods of pre-testing.

Pre-test Sample,
Group I

1. earn
2. rights
3. cloudy x
4. proved x

Pre-test Sample,
Group II

1. earn
2. rights
3. cloudy x
4. provide

5. charm
6. conduct
7. meaning
8. costum x
9. wine
10. double
11. thoughts x
12. recest x
13. whatever
14. visets x
15. youngest
16. American

5. charm
6. conduct
7. meaning
8. custom
9. wine
10. _____
11. _____
12. _____
13. _____
14. _____
15. youngest
16. American

TABLE I—SHOWING RANKING OF EACH PUPIL ON EACH OF THE TESTS GIVEN TOGETHER
WITH SUM OF RANKS AND COMPOSITE RANKING

Pupil	Haggerty Delta 2 Ranks of Intelligence Quotients	Thorndike McCall Form 6 Ranks of T-scores	Morrison- McCall List 6 No. words correct	Ayres Spelling Scale List P No. words correct	Sum of Ranks	Composite Rank
M. Mc.	2	2½	1½	2½	8½	1
E. G.	1	1	5½	11½	19	2
D. H.	7	5	5½	5	22½	3
P. C.	15	7½	3	4	29½	4
R. D.	11	7½	10½	6	35	5
R. F.	24	11	1½	2½	39	6
A. S.	6	17½	15½	11½	50½	7
E. L.	8	14	19	14	55	8
V. O.	5	37½	5½	8½	55½	9
E. L.	25	14	9	8½	56½	10
P. K.	20	22	8	8½	58½	11
B. B.	23	4	13	20	60	12
A. J.	19	17½	12	14	62½	13
D. J.	13	2½	28	29	72½	14½
H. Y.	29	11	15½	17	72½	14½
I. S.	12	22	19	20	73	16
M. D.	32	14	10½	18	73½	17
R. J.	10	22	19	24½	75½	18
E. L.	14	29	19	14	76	19
C. A.	9	11	30	22½	77½	20
L. L.	33	35½	5½	8½	82½	21½
L. C.	26	7½	22½	26½	82½	21½
D. S.	34	35½	14	1	84½	23
E. W.	4	32½	25	24½	86	24½
L. Y.	21	29	19	17	86	24½
L. C.	31	7½	22½	26½	87½	26
N. H.	17	29	25	20	91	27
E. R.	16	17½	28	36	97½	28
I. B.	3	25½	38	38	104½	29
J. G.	30	22	25	29	106	30
A. S.	18	32½	34	29	113½	31
R. S.	22	22	37	36	117	32
G. Mc.	28	25½	31	33½	118	33
R. K.	36	34	28	22½	120½	34
D. J.	27	29	34	31½	121½	35
B. H.	35	17½	34	36	122½	36
W. B.	37	29	32	31½	129½	37
W. G.	38	37½	36	33½	145	38

TABLE II—SHOWING GROUPING OF PUPILS
INTO TWO GROUPS OF EQUAL ABILITY
ACCORDING TO COMPOSITE RANKS

GROUP I			GROUP II		
No.	Pupil	Rank	Pupil	Rank	
1	M. Mc.	1	E. G.	2	
2	P. C.	4	D. H.	3	
3	R. D.	5	R. F.	6	
4	E. L.	8	A. S.	7	
5	V. O.	9	E. H.	10	
6	B. B.	12	P. K.	11	
7	A. J.	13	D. J.	14½	
8	I. S.	16	H. Y.	14½	
9	M. D.	17	R. J.	18	
10	C. A.	20	E. L.	19	
11	L. L.	21½	L. C.	21½	
12	E. W.	24½	D. S.	23	
13	L. Y.	24½	L. C.	26	
14	E. R.	28	N. H.	27	
15	L. B.	29	J. G.	30	
16	R. S.	32	A. S.	31	
17	G. Mc.	33	R. K.	34	
18	B. H.	36	D. J.	35	
19	W. B.	37	W. G.	38	
Sum of ranks		370½	Sum of ranks		370½

In the teaching of the words, and in the examination of the pupils after the teaching the two groups were handled as one class. The only variable factor, therefore,

was the method of pre-testing. Table III gives the pre-testing records for the two groups. Sixteen words were given in each pre-test except on October fifteenth when twenty words were used. There were, therefore, 180 different words given in the pre-test with 3,176 spellings in Group I and 3,272 spellings in Group II.

Group I, which was required to attempt the spelling of all words pronounced, misspelled 1030 or 32.4 per cent of the 3,176 spellings attempted. Group II, which was told not to attempt words the spelling of which they were not certain, did not attempt 2248 or 68.7 per cent of the 3,272 possible spellings. Of those attempted 118 or 3.6 per cent were misspelled.

It is interesting to note that more than twice as many words were not attempted by Group II as were misspelled by Group I. This would indicate that many of the words spelled correctly in a pre-test are merely correct guesses, and that additional drill is necessary to fix the spelling. By using the modified pre-test method such as was used with Group II, drill would be given on these words.

TABLE III—PRE-TEST RECORD

GROUP I					GROUP II				
DATE	No. of Pupils	No. of different words	No. of Spellings	No. of Misspellings	No. of Pupils	No. of different words	No. of Spellings	No. of words not attempted	No. of words Misspelled
Oct. 5, 1926.....	19	16	304	82	19	16	304	142	14
Oct. 11, 1926.....	16	16	256	98	19	16	304	182	17
Oct. 15, 1926.....	18	20	360	97	18	20	360	234	8
Oct. 22, 1926.....	19	16	304	83	18	16	288	215	5
Oct. 29, 1926.....	17	16	272	73	18	16	288	219	3
Nov. 9, 1926.....	16	16	256	101	18	16	288	210	6
Nov. 18, 1926.....	17	16	272	105	17	16	272	173	15
Nov. 24, 1926.....	18	16	288	100	18	16	288	222	20
Dec. 4, 1926.....	18	16	288	89	18	16	288	227	9
Dec. 9, 1926.....	17	16	272	94	18	16	288	194	11
Dec. 16, 1926.....	19	16	304	108	19	16	304	230	10
Totals.....		180	3176	1030		180	3272	2248	118
Per cent.....				32.4	Per cent.....			68.7	3.6

From the standpoint of correcting pre-test papers, it will be seen that the teacher would have about one-third as many words to check by the Group II method as she would have by the Group I method. This would mean a considerable saving of time for the teacher.

To pronounce a word to the pupil, and to have him determine, without writing the word, whether or not he is sure of its spelling, would seem to be a type of procedure which will tend to develop the so-called "spelling consciousness" which students of this subject agree is necessary for spelling efficiency.

The words missed or not attempted were studied by the class during the week. Two or three days were used in presenting

per cent of the words attempted while Group II misspelled 4.68 per cent of the words attempted. While the difference between the abilities of the two groups is not very great, it must be kept in mind that the pre-testing method employed with Group II is more economical on the teacher's time, and hence more desirable since it gives better, or at least as good, spelling results.

In order to test the spelling ability of the two groups in delayed recall twenty-five words chosen at random from those studied were presented to the pupils at the close of the experiment. Eighteen pupils were present in each group, making 450 spellings for each. Of this number the pupils in Group I missed 66 and the pupils in Group II missed 56. This would indi-

TABLE IV—EXAMINATION RECORD

GROUP I					GROUP II			
DATE	No. of Pupils	No. of different words	No. of Spellings	No. of Misspellings	No. of Pupils	No. of different words	No. of Spellings	No. of Misspellings
Oct. 11, 1926.....	16	16	256	8	19	16	304	12
Oct. 15, 1926.....	18	16	288	29	18	16	288	17
Oct. 22, 1926.....	19	20	380	9	18	20	360	13
Oct. 29, 1926.....	17	16	272	25	18	16	288	17
Nov. 9, 1926.....	16	16	256	20	18	16	288	19
Nov. 18, 1926.....	17	16	272	12	17	16	272	7
Nov. 24, 1926.....	18	16	288	14	18	16	288	16
Dec. 3, 1926.....	19	16	304	17	18	16	288	19
Dec. 9, 1926.....	17	16	272	9	18	16	288	11
Dec. 16, 1926.....	19	16	304	18	18	16	288	9
Jan. 7, 1927.....	15	16	240	17	17	16	272	11
Totals.....		180	3132	178		180	3224	151
Per cent.....			5.68				4.68	

them to the class, excusing from participation only those who wrote perfect papers in the pre-test. During the remaining day or days the pupils worked on their own particular spelling difficulties.

After the words had been studied and drilled upon they were again presented to the class. Table IV gives the results of these test records. Group I misspelled 5.68

per cent of the words attempted while Group II misspelled 4.68 per cent of the words attempted. While the difference between the abilities of the two groups is not very great, it must be kept in mind that the pre-testing method employed with Group II is more economical on the teacher's time, and hence more desirable since it gives better, or at least as good, spelling results.

In order to further test the spelling abilities of the two groups the Morrison-McCall and Ayres tests were repeated at the close of the experiment. Another form of the Morrison-McCall test was used and the even numbered words from the same

list of the Ayres' scale were given. Tables V and VI give the results of this testing and compare the September test results with those of January.

It should be noted that on the Morrison-McCall scale Group I had an average score two words higher in January than in September while Group II had an average 3.9 words higher. On the Ayres' scale Group I had an average per cent of words correct 9.2 points higher in January while Group II had an average per cent 11.4 points higher.

TABLE V—SHOWING AVERAGE NUMBER OF WORDS SPELLED CORRECTLY BY EACH GROUP IN SEPTEMBER 1926 AND IN JANUARY, 1927, MORRISON-MCCALL SPELLING SCALE.

Date	Group I	Group II
	No. of Words Correct	
September, 1926	23.2	21.9
January, 1927	25.2	25.8
Increase	2.0	3.9

TABLE VI—SHOWING PER CENT OF WORDS SPELLED CORRECTLY BY EACH GROUP IN SEPTEMBER, 1926 AND IN JANUARY, 1927. AYRES SPELLING SCALE.

Date	Group I	Group II
	% of Words Correct	
September, 1926	50.0	46.6
January, 1927	59.2	58.0
Increase	9.2	11.4

This experiment indicates, therefore, that on daily spellings, on delayed recall, and as measured by standard spelling scales, the method used with Group II was the more efficient. It should be kept in mind that this experiment was conducted for only three months. Had the entire school year been used the difference in abilities would no doubt have been greater.

A record was kept of all the different

misspellings occurring both in the pre-test and in the examinations following the study of the words. For twenty-three of the words the most common misspelling found in the pre-test persisted and was also the most common and in some cases the only misspelling in the examination. For most of the words, however, there were so many different misspellings that no classification of them was possible.

Conclusions

While definite conclusions cannot be drawn from the experiment because of the limited number of pupils used and the short time in which it was carried on, the following statements seem to be justified:

1. For most spellers the regular pre-testing routine is wasteful, both of pupils' and teachers' time and energy.
2. Many of the words spelled correctly in a pre-test are merely correct guesses, and definite drill is necessary to fix the correct spelling of these words.
3. To some degree, at least, the errors made in a pre-test seem to persist after the spelling of the word has been drilled upon.
4. In pre-testing, children should be required to write only those words which they are reasonably sure of spelling correctly.
5. This modified method of pre-testing will help to develop the "spelling consciousness" of the pupils.
6. Words which cause a large percentage of spelling errors should not be taught by the test-study method.
7. For the sake of economy of time and effort words should be arranged into groups so that certain lessons might be taught by the test-study method and other groups by the study-test method.
8. This grouping should be determined by rather extensive investigations to determine the difficulty-groupings mentioned above.

A SYMPOSIUM ON METHODS OF TEACHING SPELLING

BY A GROUP OF DETROIT TEACHERS

PURPOSES OF THE PROGRESSIVE LESSON SERIES IN SPELLING*

Alice Kelley Russell

Assistant Supervisor in Charge of Spelling, English Department

THE PURPOSES of the Progressive Lesson Series in spelling in use in Detroit schools are:

1. *To provide pupils with the written vocabulary which they need as children and continue to use as adults.*

Children are no longer given long lists of words which few adults ever use. Instead they are taught every day the words which they actually use as children and will continue to use as adults. Recent years have brought forth a number of extensive tabulations of words used by adults in the spontaneous correspondence of the office and the home and in the correspondence of children when relating their childish experiences. The Detroit word list includes words common to six out of eight accepted lists. These words make up the essentials required of all pupils. Additional words chosen from material used in various school subjects and in activities involving writing are provided for the able spellers. Such words together with their use in composition, for which definite provision is made, help to establish in the child mind the real purpose of spelling and the relationship between spelling and his needs in school and out.

2. *To take account of individual differences in mentality and rate of work.*

Once the list has been selected, care must be taken that conditions under which the pupils work take account of the individual. First of all the pupil needs to know which of the words he cannot spell and write.

This means economy of time. Then it follows if John finds that he knows 15 of the 20 he doesn't want to be kept back with Mary who finds that she knows but five. If he is kept back he learns habits of laziness and indifference. On the other hand if Mary is pushed along at John's rate she acquires habits of half doing. Knowledge of this situation, which exists in every classroom, necessitates an organization in which each pupil progresses at his own rate or *with others of like ability*.

In the plan provided in Detroit, each lesson is mastered by the average pupil in two study periods, by the brightest in less time, and by the slowest in three or four periods. Tests are given every third day in the lower grades and every day in the upper grades for those who are ready. Pupils who pass go on to the next lesson. Failures study and test again. The lesson groups are constantly changing. Each individual, although always a member of some group, progresses at his own rate. In other words the individual's progress depends upon himself and not on the success or failure of others in his group.

3. *To train the pupil in the use of a definite technique for learning words.*

Since the pupil becomes more and more responsible for his own progress, a technique for study which will make him intelligent and successful in attacking spelling problems is also a necessity. The learning involved in spelling is the habit formation type. A practical technique based on the

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requisites of habit formation, namely, "vivid picturing, attentive repetition and automatic control" is provided on the inside cover of the pupil's spelling book.

4. *To stimulate development of right social characteristics.*

Growth in attitudes toward work and habits of work go on simultaneously with the acquirement of knowledge and skills. Dr. Kilpatrick has said, "The child builds up in the class the ideas and attitudes he lives by. He becomes accurate or slovenly in his thinking, efficient or not in attacking his problems, courteous or discourteous in

his dealings with others." In addition then, to an improved word list and its use in composition activities, provision for progress according to ability, and a sound technique for study, the conditions under which pupils work must be such that consideration for others and unlimited co-operation, good judgment, initiative and resourcefulness, all of which are indispensable to right and effective living, are free to develop.

These, in brief, are the outstanding features of the Progressive Lessons in Spelling and the method involved.

OPPORTUNITIES FOR THE DEVELOPMENT OF SOCIAL CHARACTERISTICS

Lillian Atkinson, Detroit Teachers College

AN OUTSTANDING feature of the Individual Progress Methods of Learning to Spell, used in the Detroit schools, is the opportunity it gives the pupil to set up for himself those ideals of right living and high standards of workmanship which in turn determine his character.

As soon as the pupil decides that he wants to know how to spell he has shown the beginnings of an appreciation of the demands of a world to which he must adjust himself.

He seeks through the inventory test to find what words he actually needs to study. This test marks a break from mass instruction and a need for provision for individual differences. Adjustment of classroom work to individual differences necessitates the development of habits, attitudes and ideals which are essential in all life adjustments.

An examination of the major classroom activities reveals the following:

Activities	Social Characteristics
I. Organization	
1. Grouping	
Provision for flexible grouping of pupils so that each may advance as rapidly as he can.	Economy of time
Progress from lesson to lesson within his given group or from the dependent to the independent group depends largely upon his own efforts.	Initiative Self-direction Concentration Perseverance Pride in accomplishment
2. Materials, Devices, Charts	
Keeping materials	Orderliness
Distributing and collecting materials	Neatness
Arrangement of study and test papers, note books	Promptness
Making note book tabulations, keeping records on charts.	Judgment Accuracy Honesty

3. Changing seats quickly and quietly.

Courtesy

Consideration for the rights of others

II. Lesson Proper

1. Possession and use of definite methods of work

Valuable habits of work

Pupil wastes no time in getting started

Economy of time

Pupil approaches difficult tasks unafraid

Pupil thinks independently and makes use of available resources before resorting to the teacher

Assurance—self-reliance

Pupil questions intelligently when asking for help

Resourcefulness

Pupil persists in spite of failure

Perseverance

2. Opportunities for pupil leadership and group contact

Leaders direct activities of group but refrain from bossing

Self control

Initiative and self-direction

Leaders seek intelligently for opportunities and means of helping others

Responsibility

Pupils obey directions promptly

Coöperation

Pupils respect leadership and the rights of others

Obedience to authority

3. Exchange and correction of test papers, discussion of error between checker and writer

Ability to score accurately

Ability to take and make use of criticism

Ability to give criticism in a kindly way

4. Practice of keeping individual lists of words misspelled outside the spelling class proper and drilling himself on these

Determination to succeed

Understanding of the true goal for all work in spelling

CAUSES FOR MISPELLING AND THEIR REMEDIES GRADES V TO VIII

Gladys de Forest, Sixth Grade, A. L. Holmes School

AS PUPILS continue the method in grades five through eight they meet a new feature, diagnosis of error, in which they discover reasons for their mistakes made in the inventory tests or in later dictation tests. They are lead to see that practically all errors in spelling are attributable to four causes: incorrect pronunciation, incorrect visual image, incorrect auditory image, or ignorance of the meaning. Tidyman has said:

"One fifth of the errors that children make are due to the confusion of vowels having obscure or equivalent sounds. As a source of error it is exceeded in extent and viciousness only by the silent letters. Over one half the mistakes in spelling are due to the omission or insertion of silent letters. Together these two classes of er-

rors constitute three fourths of children's misspellings."

The children, with the teacher's help, discover the cause of each individual error by asking themselves these questions:

Did I say it correctly?

Did I see it correctly?

Did I hear it correctly?

Did I know the meaning?

Through this analysis new significance is given the familiar study steps, namely, (1) pronounce in syllables, (2) make sure of the meaning, (3) picture the word, (4) spell to yourself, (5) write it in syllables and as a single word, (6) compare carefully with the book, (7) write the word in two or more sentences.

Pupils now differentiate between the steps and see there are specific remedies

for particular weaknesses. For example, several pupils misspelled *gentleman*. In every case the letters *l* and *e* were transposed. They called this an "eye word," meaning that the mistake was due to not seeing it correctly and the learning of those letters in their order depended upon the eye. The remedy suggested involved step 3, "picturing the word in syllables" and step 5, "writing the word in syllables" with the eye following the point of the pen. Pupils who misspelled *pleasant* as *plesant*, discovered they had omitted the letter *a*, but since this letter was silent, *pleasant* was also an "eye word," and the same steps must be followed in correcting the incorrect impression. Further analysis of errors occurring in tests put the words *answer*, *leisure*, *crowd* and *director* misspelled *anser*, *lesure*, *croud*, *directer*, in the class of mistakes due to incorrect visual impressions.

Other pupils made such errors as writing *difference* with one *f* and *intresting* for *interesting*, *allready* for *already*. By naming the words according to the syllable division offered in the dictionary, pupils soon saw that their own slovenly pronunciation was largely to blame for these mistakes. Such words they called "ear words." By writing the word in syllables, pronouncing and stressing the difficult syllable as he wrote, and finally spelling the word as he wrote, each pupil corrected errors due to incorrect pronunciation. This involved the application of study steps 1, 4 and 5.

Accept and *except*, *coarse* and *course*, caused much trouble both in spelling and in use until the meaning was finally fixed.

It must be remembered that each pupil tries to discover the part of the word which is difficult for him, through tests. This forms the basis of his study of the cause for his failure, and leads him to a choice of remedy. No pupil works on the difficulties of another.

This opportunity which each pupil has for discovering his own difficulties and working on them alone, makes for concentration of effort, clearness of purpose, and ease and economy of time in learning. He arrives at a more intelligent application of the processes involved in learning to spell.

It is clear that at no time does any one step make a satisfactory correction. When the mistake is due to omission or transposition of obscure or silent letters the appeal is made to the eye primarily. This is naturally correlated with the motor images of the throat and hand involved in spelling and writing the word. Mistakes in pronunciation are corrected by a perfect auditory image accompanied by correct spelling and writing of the word. In many cases pupils use all of the study technique with special emphasis on the corrective step.

Children seem conscious of the power which the inventory test, and a working knowledge of the study technique gives them, and forge ahead by themselves. They are impatient with anyone or any circumstance that robs them of even a part of the daily spelling period.

Sensitiveness to error and pride in papers free of mistakes is very noticeable throughout all written work in the various school activities.

SPELLING IN FREE WRITTEN EXPRESSION

Amelia Goodson, Fourth Grade, Carstens School

CAN the child write this word correctly while he is lost in the thought he is expressing?" is a question worth our con-

sideration as teachers of spelling. To increase the pupil's desire to spell correctly by associating in his mind activities which

call for spelling, with actual drill work, is the purpose of setting aside a day each week for the following type of lesson.

Materials needed are a picture, the child's spelling book, a dictionary, paper and pencil.

I. Preparation

Two or three days before writing the original paragraphs, place the picture in the room where it will be noticed. Choose a picture suggesting activities that appeal to children. Magazine covers which are colorful and suggest a story are suitable.

Teacher and pupils make informal comments on the picture during intermission, after school, or at opportune times. For example, the teacher says:

"How many noticed the new picture in the room today? Do you like it? What does the picture tell you?"

As pupils give their spontaneous comments, the teacher listens for words new to their written vocabularies.

Examples:

The boy has a *stomach ache*.

He has *indigestion* because he ate too much Christmas dinner.

His grandmother *brought* him his breakfast on a tray. He thought it was *medicine*.

He is holding the *quilt* tight over his head.

He *ducked* under the *quilt*.

Teacher writes such words below the picture or near it, so that when the need to write them arises pupils have unconsciously learned them.

II. Lesson Proper

Preparation: Five minutes are taken up with comments on paragraph form and the suggestion is made to limit stories to three of four sentences. This tends toward better sentence structure and more interesting composition. Since good spelling is the aim, remind pupils of such aids as dictionaries and the spelling lists of previous grades printed in the back of each spelling book. The teacher may be appealed to as a last resort.

It is necessary to make correct spelling a matter of deep concern to pupils so that they will gladly put themselves to inconvenience for the sake of consulting the dictionary or of making inquiries, rather than use incorrect forms.

Writing: Ten minutes are quite long enough for writing a short, interesting paragraph if the pupil really has something to say. During this time the teacher goes quietly about, assisting in sentence construction and in use of the dictionary. It is important that children re-read their own papers when completed, and detect mistakes in sentence form and punctuation as well as in spelling and letter formation.

Exchange and Correction of Papers: During the last five minutes pupils exchange papers, read, check with pencil any misspelled words they find, and write the correct forms at the bottom of the paper. When in doubt, the dictionary or the teacher is consulted before the word is marked wrong. This "spelling consciousness" or ability to detect a misspelling instantly is as much the aim of all good spelling as is the development of a "spelling conscience." Checkers sign papers they have checked. This adds a sense of responsibility.

III. Follow Up Work: Study of Individual Misspellings

The second day's work is called the "follow up." Papers are collected and checked by the teacher, who adds in blue pencil any corrections overlooked, including those for sentence form and punctuation.

Papers are returned first to the writer who copies the correct forms of his misspelled words in "My Never Again List." New words which the teacher or dictionary helped him to spell are placed under "My New Word List." Pages are provided for both lists in his spelling book. Papers go on to the checker who copies the blue penciled words, words which he had not recognized as incorrect. Each pupil chooses a

partner, and the two study and dictate to each other. Pupils re-test themselves on individual lists and from time to time the teacher tests out these words in sentences.

The individual growth of each pupil is measured by a comparison of his vocabulary and coefficient of misspellings at the beginning of the term and at the end.

Example: Meredith wrote this paper on October 28, 1926.

The Banister Ride

Down on my street lives a little girl named Ethel, and a little boy named Tom.

"Come lets go for a hoarse ride Tom said one day."

"Where will we get the hoarses?" asked Ethel.

"Thats easy get on the banister way up at the top of the stiars and slid down," said Tom.

"Hurrah for our hoarses" cryed the children as they slid down the banister.

Vocabulary over three letters... 33

Spelling mistakes 6

Coefficient181

On January 13, 1927, Meredith wrote this paper:

The Poor Little Fellow

One day Jimmy just came home from the store with his dog. When he went into the house his mother was weeping. Very sadly she said "Jimmy, you must sell your dog for we have but few pennies left." Oh, he felt like breaking right down in tears but he did not. Instead, he printed a For Sale sign and took him out on the street to sell him. When he reach the corner he started to cry so hard. He was

making a big sacrafice, don't you think so?

Vocabulary 43

Mistakes 2

Coefficient (2÷43) 47

This shows a growth of 10 words in vocabulary and a decrease of 134 misspellings per thousand words of more than three letters.

The real value of this type of lesson is its near approach to a life situation. Out of school the spelling vocabulary is of value only in written expression.

PROVISION FOR THE DULL CHILD

Edith B. Watson, Second Grade, Lyon School

IN SPELLING, as in other subjects, the child whose degree of mental ability classifies him as a Z is a problem many teachers are endeavoring to solve.

Detroit's psychological clinic has studied the mental characteristics which are common to children of this group. In selecting materials and arranging working conditions to answer the needs of Z pupils, certain limitations must be considered.

The first of these is mental underagedness.

With a mental age a year below the average of his grade on entering school, at the sixth grade level, he is two years below. For this reason, spelling lessons of his dif-

ficulty level are provided and only half the usual amount of work required for the term.

His memory span is short. He needs frequent repetition of familiar words in short, routine drills. Learning bonds form slowly. Three or four study periods are spent in preparing each lesson. This allows time for the daily written review, the learning of one or two new words, and a short game which provides a spirited oral review.

The Z pupil can concentrate only for a short time. This susceptibility to mental fatigue requires that the lesson be interspersed with a type of physical activity

sufficient to motivate work on which he needs special emphasis. Bean bag and matching letter games involving letter recognition and oral spelling, answer the double purpose.

Dull pupils are interested in immediate goals only. Short units of work, constant teacher stimulation, attainable standards, and commendation for effort are necessary.

Teachers of Z classes often divide each lesson into two parts, the single words constituting the first, the sentences or paragraph the second. This shortens each unit of work still further, makes the goal more accessible, and gives an impression of more rapid progress as tests can be given oftener.

Tasks sets for the Z pupils are simple enough so that he may have the privilege of leading. Teachers of Z classes know there are degrees of ability within the group and that Z's have more patience with those of their own kind than do bright pupils. Leadership in Z classes is purely formal and teacher directed. Correction of error and development of new difficulties are undertaken by the teacher. During the drill, leaders alternate with teacher in calling upon pupils in their respective lesson groups, later working simultaneously with the teacher up and down rows, getting responses from individual children. The teacher exchanges with each leader during a study period, thereby keeping constant check on the work done.

Dull pupils lack the ability to purpose and to persevere possessed by others, but training establishes the study technique through constant repetition under routine drill conditions. Few Z pupils below the 3A grade become independent workers. Concentration may persist for a step or two, then attention centers on the mechanics of writing to the exclusion of the other study steps, the result showing obliviousness to error though the paper may be covered with misspellings. As has been said, it is not enough to tell dull pupils how to proceed, one must direct the activity and follow with a check.

In the technique for study the first step, say, requires pupil to locate the word and pronounce it. Teachers realize that children tend to spell as they speak, and habitual inaccuracies greatly increase the difficulty of correct spelling. The leader's pronunciation is first checked, then individual oral pronunciation follows.

On the *look* step, writing difficulties are anticipated. Teacher writes the word on the board. Pupils select known letter formations and recall in what words these have appeared. Such association affords daily review and simplifies the new task. The new letter or letter combinations, such as *k*, *wi*, *oi*, *gl*, *ve*, is written with colored chalk, then practiced by itself if necessary. The word as a whole is traced lightly in the spelling book several times so that pupils feel the motor image. On the third step, *think*, pupils are made responsible for "true" sentences which indicate that meaning and use are clear. These are given aloud.

On the *spell* step the order of letters is emphasized. Pronouncing and spelling the word from cards containing single script letters, and spelling while pointing to each letter in the book are devices which correlate auditory, visual and speech motor images.

The fifth step, *write*, tests the clarity of the pupil's mental image. Previous to pupil's writing, the teacher writes the word in large letters on board until children sense how it feels to write and are eager to try.

On the *compare* step pupil checks first for correct letter formation. Focusing attention on one point at a time and correction of only one point is recommended.

Writing the word three to five times aims to fix the bond. The pupil is made to feel this is his opportunity to improve the quality of his work. Comparison with the perfect copy after each writing is necessary so that attention accompanies each repetition. Ease in letter formation is the result of repeated attempts. The pupil

who lacks muscular coördination may write several times instead of three. Repetition does not annoy him. Praise for improvement, though slight, is needed.

Keeping in mind these points, slow and

careful advance, frequent and thorough review, the study technique faithfully and consistently followed, and honest effort encouraged, should lead to progress in solving the problem of how Z's shall be taught.

A STUDY LESSON—SPELLING—HANDWRITING

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THE classroom organization in the Progressive Lesson Method provides for grouping pupils on the basis of rate of work and ability to apply the study technique.

This grouping is representative.

Independent Groups (Pupils capable of directing their own study activities):

Lesson 17—Row 5 (2 pupils)

Lesson 16—Row 5 (4 pupils)

Lesson 15—Row 5 (6 pupils)

Lesson 14—Row 4 (18 pupils)

Leader Directed Groups (Children who study under the direction of pupil leaders):

Lesson 13—Row 3 (6 pupils)

Lesson 12—Row 2 (7 pupils)

Teacher Directed Groups (Children who need constant teacher guidance):

Lesson 11 Row 1 (6 pupils)

Lesson 10 Review Row 1 (2 pupils)

Within each large division are several lesson groups. The range of lessons here is eight. Grouping is flexible. When tests are given, pupils who pass go on to the next lesson group, those who fail study and test again.

Location of seats for each group is designated by the teacher. Children pass to these seats in an orderly fashion, taking with them their materials for study—the spelling manual, a pencil and one-half sheet of wide-ruled paper.

The teacher has fastened in her manual a lesson plan which includes the following points:

1. Stimulation.
2. Points to be corrected in the previous lessons.

3. Writing difficulties to be anticipated in the new lessons.

4. Opportunity for capable pupils to assume responsibility for their own progress.

5. Effective use of leaders.

6. Check on the work accomplished.

The lesson proper has two distinct parts:

1. Period of stimulation, correction, and anticipation of new difficulties.

2. Period of drill independently or under leadership.

Part one is allowed about one third of the 20 minute period.

Class charts showing each individual's progress are in themselves stimulating. The particular chart in this lesson was a line of paper Detroit city buses standing on the chalk rail. Each bus was numbered for a lesson. From the top of each appeared white hats bearing names of pupils riding there. The teacher remarked that thirty-seven pupils transferred to the next bus the preceding test day, only four had to stay behind.

The work of this first period is based upon a careful analysis of study or test papers collected the previous day and of new material to be presented.

Review words which were difficult for slow children in the teacher directed group are represented on the blackboard and vitalized by pictures, riddles, questions, etc. While pupils practice these the teacher gives her attention to the leader group, redeveloping on the board correct letter forms or combinations which have given trouble to individuals. Other children in this group, who do not need this

individual help, look over the new lessons, find words or letters on which they want help, and underline the words which they need to study.

Independent workers are encouraged to foresee trouble and to ask for help. By this time they have checked over the work for the day and are ready with questions. When these are answered the group begins work. Because they are capable of working so much faster than the dependent workers, this group is often ready to be tested before the rest of the class has completed a lesson. A capable child is chosen to dictate the test to his group. Much supplementary work, consisting of games, exercises involving spelling vocabulary, compositions, etc., is provided for these children.

The teacher has provided in her plan not only points for correction, but she has also carefully analyzed the new lessons which are to be studied. She has noted hard spots to develop before pupils study. For example, in showing a picture of Boy Blue, she asks, "What is Boy Blue doing?" The pupil answers, "Calling his sheep." The teacher writes *calling* on board, making the two tall soldiers (*ll*). The pupils practice.

To individuals in teacher group, the teacher says, "Mary, capital *I* is like an old lady in a rocking chair rocking back and forth." She makes several on the board. Mary practices on her paper. Again, "Helen, your word is *every*. Pronounce it. Check the third letter as you write."

The teacher conducts leader groups in somewhat the following manner.

"What was the little girl's name in your lesson?" (May) Teacher makes capital *M* saying, "It starts with a big *M*. Where does *M* begin? How many times do we go over the hill? Make a row of capital *M*'s for me."

"When I read your lesson I found this letter." (Writes *y* on board). "Find two words that begin with *y* in your lesson (*yes, years*.) Yes, Mary hears the band

playing. Practice. What other words have you that sound like *years*?" (hears) (ears).

"How many wagons did Mary see in the parade? (four). Remember *f* has a straight back a long narrow loop below the line. Practice *f, four, y, years*."

The second part of the lesson is the drill period. The independent workers have already begun their work. The teacher now directs the study of the rest of the class in coöperation with leaders, acting as leader for the slower pupils herself. A captain is chosen for each of the other rows. The class leader or spokesman takes his place in front of the room and each captain stands at the head of his row. As the study step is named by the class leader, each group captain passes quickly and quietly up and down his row either hearing (whispered responses) or seeing the step performed by pupils in their seats. At least once during the period, the teacher exchanges places with each captain, thus giving her an opportunity to check on the work of the leader. As fast as pupils become more competent leaders work more informally and independently of each other.

From time to time, while slow pupils are writing the word three times, the teacher releases herself to walk up and down among the independent workers, commending and correcting individual papers. At the end of the study period all of the papers are collected for the analysis which will form the basis of the corrective work the next day.

Pupils enjoy working in this way. Each one seems conscious of his goal and of his relation to it at all times. Good spelling, which means passing a lesson on the first trial, becomes a matter of pride and once the technique is mastered, the pupil assumes more and more the responsibility for his own progress. So he profits by all opportunities as an individual without being isolated from the group.

EDITORIAL

Banishing a Dilemma

SOME of the most acrimonious debates on questions of curriculum making have centered around the evaluation of subject matter in the regions of adult interests and endeavor. For example, the studies of Harold O. Rugg relating to materials for use in courses of study in civics aroused, a few years ago, vigorously opposing groups. But nowhere have issues been more sharply drawn than in spelling and vocabulary.

There seems to be little need, however, of throwing the question of vocabulary on the horns of dilemma. Education is not a matter of preparation for life. It is a matter of life, past, present, and future. The problems of education center in the child. Education is a matter of growth in life, consequently what has been, what is, and what will be are all important. But above every consideration is the importance of the fullness of life for the growing child at every stage of development.

There are matters of the child's future of such vital concern that they become vastly important to him in the present. Certain phases of human life, even in childhood, raise the problem of right fulfillment in the future. Herein is one of the distinguishing differences between primitive human life, animal life, and human life under conditions of civilization. Many of the child's most characteristic methods of play are emotionally and mentally anticipatory of adult experiences.

For the curriculum maker, therefore, to bring into the course of study materials which on careful appraisal or scientific investigation prove vitally important in adult life, is not necessarily contrary to the normal processes of growth from childhood to adulthood. The instant, however, that the

curriculum maker brings such matter into the course of study under conditions that make it inharmonious or incongruous with the normal impulses of child life, there are likely to be conflicts disastrous to enrichment and growth of the kind most essential to the child. In so far as this is true, not only are the growth processes of the child interfered with, but the fruition looked for in adult life is endangered.

The studies that have been made of *children's* vocabularies, and those that have been made of *adult* vocabularies are alike indispensable to the expert who is developing a public school course of study in spelling. But when the expert seizes upon adult material and forces it into the school situation with the sole argument that it is a necessary part of the child's preparation for adult life, he may thereby render processes of acquisition distasteful and unsatisfactory to the child, thus defeating the educational ends in view.

In this connection, Dr. Breed gives (page 101) three criteria so valuable as to warrant their repetition here.

"In the construction of a spelling vocabulary for public school use, the writer has proceeded on the following assumptions: (1) that the most important constituent of the minimal spelling vocabulary is a list of words with relatively high frequency in the written discourse of *both* children and adults; (2) that words of especially high frequency in the usage of children should be included in the minimal list, regardless of adult usage; (3) that words of especially high frequency in the usage of adults should be included in the minimal list regardless of the usage of children, but care should be taken to allocate these words to the seventh and eighth grades."

SHOP TALK

CRITERIA FOR MAKING, JUDGING, AND SELECTING WAYS OF MEASURING THE OUTCOMES OF INSTRUCTION

FIRST, the ability which the test measures must be an ability which the school should seek to develop. For example, the success with which the school is teaching children to spell the words which both children and adults need to spell in life outside the school cannot be measured by a test, standard or otherwise, which contains words which are not important either for children or for adults to spell and which does not contain the most important and most difficult words which children and adults do need to spell. Important abilities which are *not* tested are likely to be neglected. Unimportant items which *are* tested are likely to be over-emphasized.

Second, the test which is used in a given grade in a school, say in Grade VI, must measure what should be taught in that grade. In other words, it should relate to the purposes which are set up by and for the teacher and pupils in that grade.

With regard to these first two criteria, it seems clear that if a test measures what should be, but is not, contained in a course of study for a grade, or if it measures what is, but should *not* be, included in the course of study for a grade, the responsibility for results must fall on the shoulders of the textbook-maker and curriculum-maker, rather than upon the shoulders of the teacher and

the pupils. It is still not uncommon for pupils of a given grade with a superior course of study, superior books, and superior teaching and learning methods to be given a low rating because of the fact that their spelling ability is measured by means of a test which not only contains words which the pupils of the grade are not expected to learn and fails to contain words which they are expected to learn, but also contains words which pupils of no grade should be expected to learn. This is obviously an unfair and absurd practice educationally and cannot fail to hamper the improvement of courses of study and teaching methods. This illustration is chosen from spelling because of the concreteness of the data. The same defects can easily be shown, in principle, in other types of tests now prevalently used for other subjects.

Third, it is particularly important that the test used should not only consistently measure what it purports to measure, but it should also be of the sort which can be rated accurately by teachers without the variability so often manifested in teachers' marks.

Fourth, the test should be of the type which can be utilized to show teachers and pupils the progress which they are making in the attainment of desirable objectives.

ERNEST HORN.

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A SUGGESTION FOR SCIENTIFIC EXPERIMENTATION IN A METHOD OF TEACHING SPELLING

(Continued from Page 112)

called on to answer at the board. All papers should be collected and the errors common to several pupils noted for further teaching.

6. Let groups of children play the game among themselves. This can be done by appointing a very ready writer and speller to be the "teacher" of his group of two or

three. The teacher uses emulation as one motive, for example, suggesting that she would like to see which group has the best questions and answers about the topic, which should be one familiar to all.

7. Questions and answers used in studying the reading lesson is another adaptation of the scheme.